



## Research Article

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# Prevalence of depression in female patients with hypertension attending outdoor clinic in a Secondary care centre in Northern India

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## Abstract

**Background:** Hypertension is one of the most serious medical conditions affecting a huge population worldwide. Similarly, depression is also one of the major conditions affecting people nowadays especially women who are housewives. There is a direct correlation associated between Hypertension and Depression, where each can worsen the others prognosis. **Aims and Objective:** Prevalence of depression in female patients with hypertension attending outdoor clinic in a Secondary care centre in Northern India. **Materials and Methods:** In our study we included 270 patients. Consent was taken and a semi structured proforma was used for collection of socio demographic details. HAM-D scale was used to assess Depression in the patients. Statistical analysis was done of the data that was collected. **Results:** 68.9% of the sample population had depression, with majority of them having mild symptoms. Moreover, there was statistically significant positive correlation between the duration of hypertension and mean HAM-D score. **Conclusions:** There is a requirement for proper screening of depression in patients especially females with hypertension so that they can be treated properly and at the earliest.

**Keywords:** Blood infection, Blood culture, Antibiotic susceptibility.

## INTRODUCTION

Increased blood pressure or hypertension is one of the most serious medical illnesses. This increases the risk of heart, brain, renal and other associated conditions in a significant way. Systolic Blood Pressure of 140mm Hg or more and/or Diastolic Blood Pressure of 90mm Hg or more is defined as Hypertension by the Eighth Joint National Committee. Almost 90% patients have primary hypertension which can be controlled with lifestyle modification and medications. Only less than 10% of the patients have secondary hypertension which may be due to medication or another underlying medical condition [1-4].

It is a very silent kind of disease in which there is high risk of not having any warning signs even with high levels of blood pressure. Thus, labelling it as a silent killer. It may have symptoms such as headaches which are dull in nature, dizziness, nose bleeds and vomiting [5].

Depression is one of the most major and serious psychiatric conditions that is prevalent these days. It has huge impact not only on the psychological wellbeing of an individual but also on the social and occupational health of a person [6,7]. It affects people in almost all communities worldwide and is one of the most significant contributors towards global burden [8]. Every one in ten patients seen in primary care settings suffer from depression [9]. As per the diagnostic criteria, according to DSM 5, the core symptoms of depression consists of- low mood, decreased interest in activities along with at least 4 of these following ones- feeling of worthlessness, lack of energy, problem in concentration, thoughts of suicide, weight disturbances, psychomotor disturbances, sleep disturbances which should last for a period of at least 2 weeks. It can be mild, moderate or severe, with or without psychotic features. It may be a first episode, recurrent or chronic [10].

Depression is more common amongst patients suffering from chronic diseases like hypertension, diabetes mellitus and cardiovascular problems [11,12]. Hypertension makes a person more vulnerable towards developing Depression. Similarly, Depression also increases the severity and risk of Hypertension [13]. This continuous cycle results in poor mental status and physical wellbeing. Presence of any kind of psychiatric comorbidity can cause worsening of hypertension. It can further cause disturbances in the quality of life

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and socio occupational disturbances. Likewise, the prevalence of hypertension may be increased due to presence of depression in patients. This fairly highlights the equally affecting relationship between these two conditions.

In Indian society Homemakers or Housewives are the backbone of a household. Owing to the traditional roles at times it leads to related stress associated with these roles which may lead to higher prevalence of depression in females as compared to males [14]. There is very little data available about the mental health of house wives in India. So, this study was undertaken to check the prevalence of depression in female patients with hypertension in a rural setup.

## MATERIALS AND METHODS

This was a cross sectional research which was conducted at a Secondary level Government Health care facility. Ethical clearance was sought for commencing the study. About 270 patients were included in this study with all of them being above 18 years of age. Written consent was taken from the patients before including them in the study. All the patients who were diagnosed with hypertension and attending Medicine OPD and on treatment were referred to Psychiatry OPD for assessment for depression.

The Inclusion criteria were to include:

- 1) All married females above the age of 18 years of age
- 2) Diagnosed with hypertension
- 3) Living in rural area
- 4) Housewife or homemaker

The Exclusion criteria were:

- 1) Those suffering with comorbid medical conditions
- 2) Prior history of psychiatric illness

To collect the socio demographic data, a semi structured proforma was put to use. The Hamilton Depression Rating Scale (HAM-D) scale was used to check for severity of Depression in patients who were diagnosed with hypertension.

### HAM-D:

This was one of the very first scales which was developed for rating the severity of Depression in patients. Its main aim is to assess the severity of depression amongst patients and is clinician rated. Originally, it had 21 items included in it. But the last 4 items were not to be counted as these items were either uncommon or had no reflection of severity of depression. These 4 items included derealisation/depersonalisation, obsessive compulsions and paranoid symptoms. Thus, eventually a HAM-D version with 17 items was considered to be a standard which is used over the period of years for studies, researches and trials.

In this scale the total score is obtained by summation of the score of all of the items. In this version of the scale (17 items) the score ranges from 0 to 54. The rating is done with scores of 0, 1, 2, 3, 4 where in 0 being the lowest and 4 being the highest. Herein the scores of 0-6 are being considered as not indicating any presence of Depression. Between 7-17, the score indicates mild level of Depression. Between 18- 24, the score indicates moderate level of Depression. And a score of above 24 is indicative of severe Depression [15].

## Statistical analysis

All the data which was obtained from using the scale and proforma was entered into MS Excel sheet. Statistical Analysis was done by subjecting this data using computerised software. Two-tailed p-value of  $\leq 0.05$  was considered statistically significant.

## RESULTS

Table 1 shows the demographic details of the study population. The sample size of our study was 270, all of which were females, and the mean age of the study population was 57.6 (9.03) years. Majority of them belonged to rural background (91.9%), were married (87.4%), all were housewives. With slightly more than half of them being illiterate (57%), and one third studied till primary school. The mean duration of hypertension in the study population was 6.1 (5.22) years as mentioned below in Table-2. Depression was assessed in the study population, using Hamilton rating scale for depression (HAM-D) as shown in Table-3. More than two-third of the study population had depression (68.9%), majority of them had mild symptoms (65.9%). When relationship between duration of hypertension and HAM-D scores was carried out, in the study population, using correlation statistics, a positive correlation between the two variables was detected as shown in Table-4. No other factors showed a statistically significant correlation.

**Table 1:** Socio-Demographic profile of the study sample

Variables	Total sample (n=270) Mean (SD)/ Frequency (%)
Age in years	57.6 (9.03) [Range= 36-80]
Marital status	
Married	236 (87.4%)
Widowed	34 (12.6%)
Education	
Illiterate	154 (57%)
Primary school	77 (28.5%)
Secondary school	32 (11.9%)
Higher secondary	4 (1.5%)
Graduate	3 (1.1%)
Region	
Rural	248 (91.9%)
Urban	22 (8.1%)

**Table 2:** Phenomenological detail of the study population

Variables	Total sample (n=270) Mean (SD)/ Frequency (%)
Duration of Hypertension	6.1 (5.22) [Range= 1-25]

**Table 3:** HAM-D Scores and interpretation of the study population

Variables	Total sample (n=270) Mean (SD)/ Frequency (%)
HAM-D interpretation	9.31 (4.22) [Range= 2-19]
Depression	
• Present	186 (68.9%)
HAM-D severity interpretation	
Normal	84 (31.1%)
Mild depression	178 (65.9%)
Moderate depression	8 (3.0%)

**Table 4:** Correlation of means of HAM-D scores with various demographic and phenomenological factor

HAM-D	Age in years	Duration of hypertension in years
	-0.077 (0.207)	0.170** (0.005)

## DISCUSSION

Amongst all age groups depression is one of the major serious conditions. Irrespective of the socio-economic status, it can occur at any age [16]. In women the highest risk is between the age groups of 18-50 years [17].

*Urvashi et al.* in 2019 did a study on depression among housewives in rural area. In their findings only 11.3% subjects had no schooling, 41.3% had schooling of less than 8 years. Whereas, in our study 57% of the participants were illiterate and 28.5% had primary education. These findings are in concordance with Luni et al, Poongothai et al and Nisar et al as they had reported that increased level of education decreases the prevalence of depression [9,18,19]. In their study 43% subjects were found to have depression whereas in our study 68.9% women were found to have depression. Their study the subjects having depression had a mean age of 42.4(±10.3) years, whereas the mean age of participants in our study was 57.6 (9.03) years [20].

Kosana Stanetic et al in their study which included 200 patients diagnosed with hypertension showed that majority of the patients were females (60.5%) and most of the patients (65%) were older than 65 years of age. Whereas in our study all the participants (100%) were females with mean age of 57.6 (9.03) years. In their study more than half of them (54.5%) had hypertension for lesser period than 10 years, whereas in our study the mean duration of illness was 6.1 (5.22) years. Their study's result reflected that in female patients there was statistically more significant (P= 0.000) expressed depression than males. Whereas, in our study, 68.9% women were found to have depression. According to Kosana Stanetic et al only 29% had mild symptoms, 10.5% had moderate symptoms, had 21 (10.5%), while 6.5% had severe symptoms of depression. Whereas, in our study 65.9% had mild depression and 3.0% had moderate depression [21].

In South Africa a large national survey which was conducted to look for association between depression, anxiety and hypertension showed a high prevalence of mental disorders and hypertension [22]. Gerontoukou et al in their study to investigate prevalence of anxiety and depression in chronic diseases found that hypertension was the commonest chronic disorder which was associated with depression and anxiety [23].

The results which are shown in our study are similar to Li et al's meta-analysis of 2015 which showed a high prevalence of depression in patients with hypertension [24]. Similarly, Rabkin et al also showed an increased prevalence of depression in patients of hypertension [25].

There is an equally affecting effect between patients of hypertension and depression. Thus it can increase the risk of further complications as both decreases the quality of life. So, both should be treated together so that a patient's health improves holistically. The patients of hypertension should be regularly screened for depression so that it doesn't go unreported. This is all the more important for women especially housewives as they are burdened with the daily chores which are considered normal and thus ignored. Female gender is significantly affected by depression. Other factors such as old age and more duration of disease also affect the occurrence of depressive symptoms. So, proper assessment in female patients with hypertension is required at regular intervals.

## CONCLUSION

Amongst the patients of Hypertension, the occurrence of Depression is higher. Females are more susceptible to having depression as compared to males. There is an increased need for proper screening and assessment of depression in patients with hypertension especially in females. This should be followed by early and proper treatment and follow ups. There should be a holistic approach to treat diseases such as hypertension and associated comorbid psychiatric conditions.

## Strengths

1. The study was conducted at a Secondary level health care center.
2. Evaluation was done by specialists of their respective fields.
3. Sample size is adequate.
4. For assessment proper scales were used.

## Limitations

The study was done at one centre and can be expanded to multiple centres for more generalization. Also data from different regions could have been taken which could have shown more concrete results regarding the mental health of women. Also the data upon follow ups can be noted to check for improvement in the patients.

## Conflicts of interest

None declared.

## Financial support

None declared.

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